Amendments to the Drawings

The attached Replacement Drawing Sheet containing Fig. 22 replaces the originally-filed drawing sheet containing Fig. 22 of this Application. An Annotated Drawing Sheet containing a marked-up version of amended Fig. 22 is also attached.

Remarks

Prior to this Amendment, Claims 1-30 were pending in the present application. By this Amendment, Applicant has amended Claims 1-7, 11, 14-16, and 28. No new matter was added by this Amendment. Applicant respectfully requests reexamination and reconsideration of the pending claims in view of the amendments and remarks contained herein.

I. Objections to the Drawings

Fig. 22 stands objected to due to informalities identified by the Examiner. Applicant has amended the identified informalities and has provided a corrected drawing sheet containing Fig. 22 with this Amendment.

II. Claim Rejections – 35 U.S.C. § 102(b)

Claims 1, 12-13, 16-17, and 28-30 stand rejected under 35 U.S.C § 102(b), as being anticipated by United States Patent No. 6,006,242, issued to Poole et al. (hereinafter referred to as "Poole"). As discussed below in more detail, Poole does not teach or suggest the subject matter defined by these claims.

A. Independent Claim 1

Amended independent Claim 1 recites:

A method of generating a document, the method comprising:

> establishing a software architecture for a set of rules, where each rule in the set of rules is configured to be embedded in one or more computer processable documents, the documents consisting of a plurality of components, the set of rules defining content to be included in the documents; and
>
> creating a dynamic document structure that can resolve to one or more instances of a document and that is configured to include one or more rules based on the software architecture for the set of rules.

According to the Office, Poole teaches establishing a software architecture for a set of rules to be embedded in documents that consist of a plurality of components. Applicant asserts that (1) the portions of Poole referenced by the Office as disclosing the above claim elements do not disclose establishing a software architecture for a set of rules to be embedded in documents

and (2) Poole, taken its in entirely, does not teach or suggest establishing a software architecture for a set of rules to be embedded in documents where those rules define content to be included in the documents, as recited in amended Claim 1.

Before further explaining the distinction between the claimed subject matter and the subject matter disclosed by Poole, it is useful to note that not all "rules" are the same. For example, in the Background of the Invention Section of Poole, the use of rules in the prior art is explained as follows:

> The system disclosed in Miller . . . employ[s] a conventional relational database scheme to test customer-specific input information against a table of rule sets which, in turn, are directly linked to various boilerplate clauses. A rule set is assigned to each insurance policy clause and each endorsement clause. The insurance and endorsement clauses and rule sets are stored in a memory . . . . Each rule set includes at least one rule that must be satisfied in order to include the associated clause in the document. After entering customer-specific parameters into the computer, . . . each and every rule in each and every rule set is evaluated to determine whether a particular clause is to be included in the document. In order to print a document, a printer database containing a redundant copy of each insurance and endorsement policy clause is utilized to supply the appropriate clauses . . . .
>
> Although the system disclosed in Miller provides for some degree of improvement . . . , there remains a . . . need . . . for a flexible inferencing capability that dynamically determines content to be included in a document, wherein direct linkage between content and content determining rules is obviated. The present invention fulfills these and other needs.

Thus, in Poole an improvement in dealing with rules was made by eliminating a direct linkage between the content and the content determining rules. The elimination of the direct link involved the use of catalogs. *See, e.g.,* Abstract of Poole. In the system disclosed by Poole, a document developer manually specifies entity references to be included in a document based on the document developer's own knowledge of the business, legal, and/or governmental rules and regulations that govern a particular document. Col. 5, lines 1-7 of Poole. The entity references specified by the document developer are then resolved using the catalogs. Col. 19, lines 9 of Poole. In particular, the document generation system disclosed in Poole attempts to find a match between an entity reference specified by the document developer and an entity reference specified in a catalog. Col. 6, lines 55-59 of Poole. Once a match is found, the entity reference is resolved according to the resolution strategy or process specified in the matching catalog entry

through the use of an inference engine. Col. 6, lines 64-67 and Col. 7, line 1 of Poole. During the entity reference resolution process, the inference engine determines what rules apply and loads rules from the knowledge base. Col. 20, lines 27-36 and Col. 42, lines 44-45 of Poole.

In certain claims of the present application, a different approach is used. For example, embodiments of the present application provide a software architecture for rules that can be embedded in documents. The Office cites to col. 2, lines 15-16 and 41-48, and col. 80 lines 22-23 of Poole as disclosing a software architecture. These portions of Poole disclose, respectively, a system for dynamically constructing documents and the fact that software embodying document construction software can be stored on a CD-ROM. Next, the Office cites to col. 5, lines 1-10, as, apparently, disclosing documents including a plurality of components. Lastly, the Office cites to col. 12, lines 10-24 and asserts that this portion discloses "Documents Properties that are properties of a document or rules to follow. Such properties (rules) include the page margins, base font, page orientation, and paper size to follow." 15 November 2006 Office Action, p. 5. The Office goes on to indicate that "these properties are embedded in the document." *Id.*

Applicant readily admits that page margins, fonts, page orientation, and paper size are old. Applicant also admits that one might properly refer to margins, fonts, page orientation, and paper size as document "properties." However, it requires a complete distortion of the teachings of Poole and a large leap in logic to equate the actual margins, fonts, page orientation, and paper size, which are admittedly inherent in things properly characterized as a "document," with "rules," particularly when 1) the words "property" and "rule" are not synonyms and 2) Poole itself describes its own "rules" in a different manner.

Regarding the Office's equation of the words "property" and "rule," the word "property" generally refers to an attribute or quality of a thing. In contrast, the word "rule" generally refers to a principle or prescription that governs action. It is improper to use these terms interchangeably because they clearly have different meanings. A thing may possess a property after a rule has been applied, but something that has a property does not necessarily possess a rule. Thus, documents that inherently possess properties such as margins, do NOT inherently possess rules.

Regarding the rules described in Poole, as noted above and as shown in Fig. 19, the rules used in Poole's document generation system are stored in the knowledge base. As explained by Poole,

> [t]he dataflow diagram of FIG. 19 shows the Inference Engine Processor 300 as a single process that takes an initial request from an Application 301 to begin processing, and makes periodic requests to the Application 301 and Knowledge Base 302 to complete its task. In FIG. 20, there is depicted the basic processes associated with the operations of the Inference Engine 300. The Inference Engine 300 consists of three main processes. The Application Interface 304 takes a name that corresponds both to a text file containing the rules to execute and passes that name along to the Parser 306. The Parser 306 reads the text file and converts the text into an executable Rule Network 305 that is returned to the controlling Application Interface 304. The Rule Name 307 to execute and the Rule Network 305 are then passed to the Evaluate Rule Processor 309, which begins evaluating rules in the Rule Network 305 beginning with the rule corresponding to Rule Name 307.

Col. 42, lines 46-62.

Clearly, Poole discloses storing rules in the knowledge base[1] and makes no mention whatsoever that the rules are embedded in a document.

Returning to the rejections presented by the Office, the Office first cites portions of col. 5 of Poole as disclosing "establishing a software architecture for a set of rules." The portions of col. 5 of Poole cited by the Office, however, only disclose manual specification or selection of content based on an individual's personal understanding and application of business, legal, or governmental rules, NOT a software architecture for a set of rules.

Second, the Office cites portions of col. 12 of Poole as teaching "establishing a software architecture for a set of rules to be embedded in documents." Again these portions merely disclose a document developer manually specifying desired copy setup, margins, paper size, etc.

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[1] *See also*, "'Knowledge Base' is a term that refers to a collection of documents, document components, document type definitions, catalogs, **rules**, and links. Col. 4, lines 54-56 (emphasis added); "As is indicated at step 101, knowledge is entered into the Knowledge Base in the form of documents, document components, document type definitions, catalogs, **rules**, links, and other information needed to construct any number of document and form types." Col. 6, lines 17-22 (emphasis added); "Knowledge is preferably entered into the Knowledge Base by a domain expert who is experienced in some field of domain of human knowledge. At step 103, the knowledge is entered into the Knowledge Base in units of text or text fragments referred to herein as components. At step 105, the **rules** that dictate the access and utilization of components are also entered into the Knowledge Base." Col. 6, lines 29-35 (emphasis added).

through a dialog box 270 (shown in Fig. 17), and make no mention of the application of rules or where such rules are stored.

Applicant also notes that Poole notifies a user if document properties entered by the user via the dialogs are compliant with document regulations. Col. 12, lines 19-21. As a consequence, the rules would need to be accessible and executable at the time the user enters the document properties, most likely by the dialog itself, in order to provide error checking in a real-time or near real-time fashion. Therefore, the rules governing compliant document properties would not be embedded in a document. In addition, all rules disclosed in Poole are stored in the knowledge base, and Poole does not teach that rules are embedded in the documents produced by the document generating system.

Therefore, Poole does not teach of suggest embedding rules in documents and embedding error-checking rules defined in Poole in a document created by the document generation system disclosed in Poole would not be inherent or obvious, since the rules would need to be executed by the dialogs presented to the user. Nonetheless, to further clarify the distinction between the rules disclosed in Poole and embodiments of "embedded rules" as claimed, Claim 1 has been amended to include, among other elements, "establishing a software architecture for a set of rules, where each rules in the set of rules is configured to be embedded in one or more computer processable documents, the documents consisting of a plurality of components, the set of rules defining content to be included in documents" (emphasis added). As described above, the error-checking logic disclosed in Poole that is configured to determine whether manually-specified document properties are compliant, merely verifies cosmetic properties of a document specified by a user and does not define content that is included in a particular document. Therefore, the portion of Poole referenced by the Office as teaching "establishing a software architecture for a set of rules to be embedded in documents" does not teach or suggest establishing a software architecture for a set of rules to be embedded in documents that define content to be included in documents.

In addition, Poole does not teach or suggest "creating a dynamic document structure that can resolve to one or more instances of a document and that is configured to include one or more rules based on the architecture for a set of rules," as recited in amended Claim 1. As disclosed in Poole, after the document developer selects the appropriate entity references, "the resolved . . .

[entities are] returned and made available for incorporation into a document in the form of a corresponding document component" (col. 7, lines 10-14). In addition, Poole discloses that a "significant advantage of the document construction methodology illustrate in FIG. 1 concerns the ability to integrate components selected from the stream 40 of components into SGML documents of varying types and styles. Document-X 44, for example, is shown as having been constructed using resolved and validated components A, B, C, and N in accordance with a first document structure and format style. Document-Y 46 and Document-Z 48 are shown as having been constructed using the same components A, B, C, and N to produce documents having differing structures and format styles. It is noted that other documents can be constructed using one or more of the components A, B, C, and N. It can be seen that any number of documents can produced with desired structural and stylistic requirements, and published in printed or electronic form" (col. 5, lines 25-39).

As further disclosed in Poole, "[i]t is noted that the format style of the document, as well as any of the document components corresponding to the resolved entity references, is typically determined after completing the resolution process, but may alternatively be determined during the resolution process" (col. 7, lines 17-22).

Therefore, although the resolved components can be manually or automatically formatted and/or incorporated into one or more documents based on a document structure or form, Poole does not teach or suggest that the resolved components or the documents that will contain the resolved components include embedded rules. In fact, embedding rules in the resolved components would cause the components to be considered "unresolved," since they would not be useable in a document in their present form (e.g., additional processing would be necessary to resolve the rules). In addition, as noted above, since Poole does not disclose establishing a software architecture for a set of rules to be embedded in documents that define content to be included in documents, Poole clearly does not teach or suggest creating a structure that includes rules based on the architecture for a set of rules.

In summary, Poole does not teach or suggest "establishing a software architecture for a set of rules to be embedded in documents, the documents consisting of a plurality of components, the set of rules defining content to be included in documents," as recited in amended Claim 1. Poole also does not teach or suggest "creating a dynamic document structure

that can resolve to one or more instances of a document and that is configured to include one or more rules based on the architecture for a set of rules," as recited in amended Claim 1. Accordingly, for at least the reasons set out above, independent Claim 1 is allowable and dependent Claims 2-13, which depend from independent Claim 1, are also allowable.

B. Independent Claim 16

Amended Claims 16 recites, *inter alia*:

> A method of assembling a document from a group of components, the method comprising:
>
> retrieving one or more cross-referenced document components from a data base based on the transaction data set, the one or more document components configured to include one or more embedded rules, the one or more rules defining content to be included in documents;...

As described above with respect to Claim 1, Poole does not teach or suggest establishing a software architecture for a set of rules configured to be embedded in documents, where the documents consist of a plurality of components, the set of rules defining content to be included in documents. Therefore, Poole does not teach or suggest "retrieving one or more cross-referenced document components from a data base based on the transaction data set, the one or more document components configured to include one or more embedded rules, the one or more embedded rules defining content to be included in documents" as recited in amended Claim 16.

Furthermore, as noted, Poole actually discloses storing document components in a knowledge base separate from rules stored in the knowledge base. In particular, Poole discloses that "at step 103, the knowledge is entered into the Knowledge Base in units of text or text fragments referred to as components. At step 105, the rules that dictate the access and utilization of components are also entered into the Knowledge Base" (col. 6, lines 31-35). Therefore, although Poole discloses using rules during the resolution process in order to determine document components, Poole does not teach or suggest retrieving document components that include embedded rules from a knowledge base. Storing rules in a knowledge base that also stores document components is not equivalent to embedding rules in document components and then storing the document components in a knowledge base. Therefore, Poole, among other elements, does not teach or suggest "retrieving one or more cross-referenced document components from a data base based on the transaction data set, the one or more document

components configured to include one or more embedded rules, the one or more rules defining content to be included in documents," as recited in amended Claim 16.

Accordingly, for at least the reasons set out above, independent Claim 16 is allowable and dependent Claims 17-27, which depend from independent Claim 16, are also allowable. Similar rationale can be applied to independent Claim 28, as amended, and the claims that depend on Claim 28. Therefore, Claims 28-30 are allowable for the at least one or more of the reasons set forth above with respect to Claim 16.

III. Claims Rejections – 35 U.S.C. § 103(a)

Claims 2-11, 14-15, 18-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Poole in further view of printed publication "XML in a Nutshell" authored by Harold et al. (hereinafter referred to as "Harold").

A. Independent Claims 14 and 15

Amended Claims 14 and 15 recite, *inter alia*:

> A method of generating a document, the method comprising:
>
> establishing a software architecture for a set of rules configured to be embedded in documents by creating a schema having a conditions element, a choose element, an iterators element, a functions element, and an external interface element that is configured to be resolved into a value, the set of rules defining content to be included in documents; ...

As described above with respect to Claim 1, among other elements, Poole does not teach or suggest establishing a software architecture for a set of rules to be embedded in documents wherein the set of rules define content to be included in documents. Harold does not cure the deficiencies of Poole. In contrast, Harold merely discloses standard elements and functions associated with the extensible markup language ("XML"). Although Harold may disclose means for establishing an architecture for a set of rules (e.g., the architecture may be based on XML), Harold makes no mention whatsoever of establishing an architecture for a set of rules, wherein the rules are to be embedded in documents and define content to be included in

documents. Therefore, independent Claims 14 and 15 are allowable for at least the additional reasons set forth above.

B. Dependent Claim 2-11 and 18-27

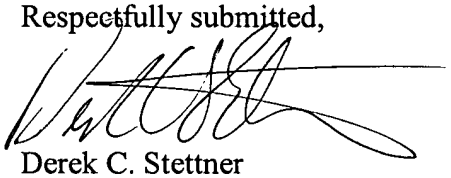
Dependent Claims 2-11 and 18-27 depend from independent Claims 1 and 16 respectively and, therefore, are allowable for at least the reasons set forth above with respect to Claims 1 and 16. Nonetheless, Applicant provides additional explanation regarding the allowability of these claims.

As noted above, Poole does not teach or suggest establishing a software architecture for a set of rules to be embedded in documents where the rules define content to be included in documents or "creating a dynamic document structure that can resolve to one or more instances of a document and that is configured to include one or more rules based on the architecture for a set of rules," as recited in amended Claim 1. As also noted above with respect to Claim 16, Pool does not teach or suggest "retrieving one or more cross-referenced document components from a data base based on the transaction data set, the one or more document components configured to include one or more embedded rules, the one or more embedded rules defining content to be included in documents" as recited in amended Claim 16. Harold does not cure the deficiencies of Poole. As described above with respect to Claims 14 and 15, Harold does not teach or suggest establishing a software architecture for a set of rules, wherein the rules are to be embedded in documents and define content to be included in documents. In contrast, Harold merely discloses standard elements and functions associated with the extensible markup language ("XML"). Therefore, Claims 2-11 and 18-27 are allowable for at least the additional reasons set forth above.

IV. Conclusion

In light of the above, Applicant believes that the application is in condition for allowance and respectfully requests that a timely Notice of Allowance be issued in this case. Applicant also requests that the Examiner telephone the attorneys of record in the event a telephone discussion would be helpful in advancing the prosecution of the present application.

Respectfully submitted,



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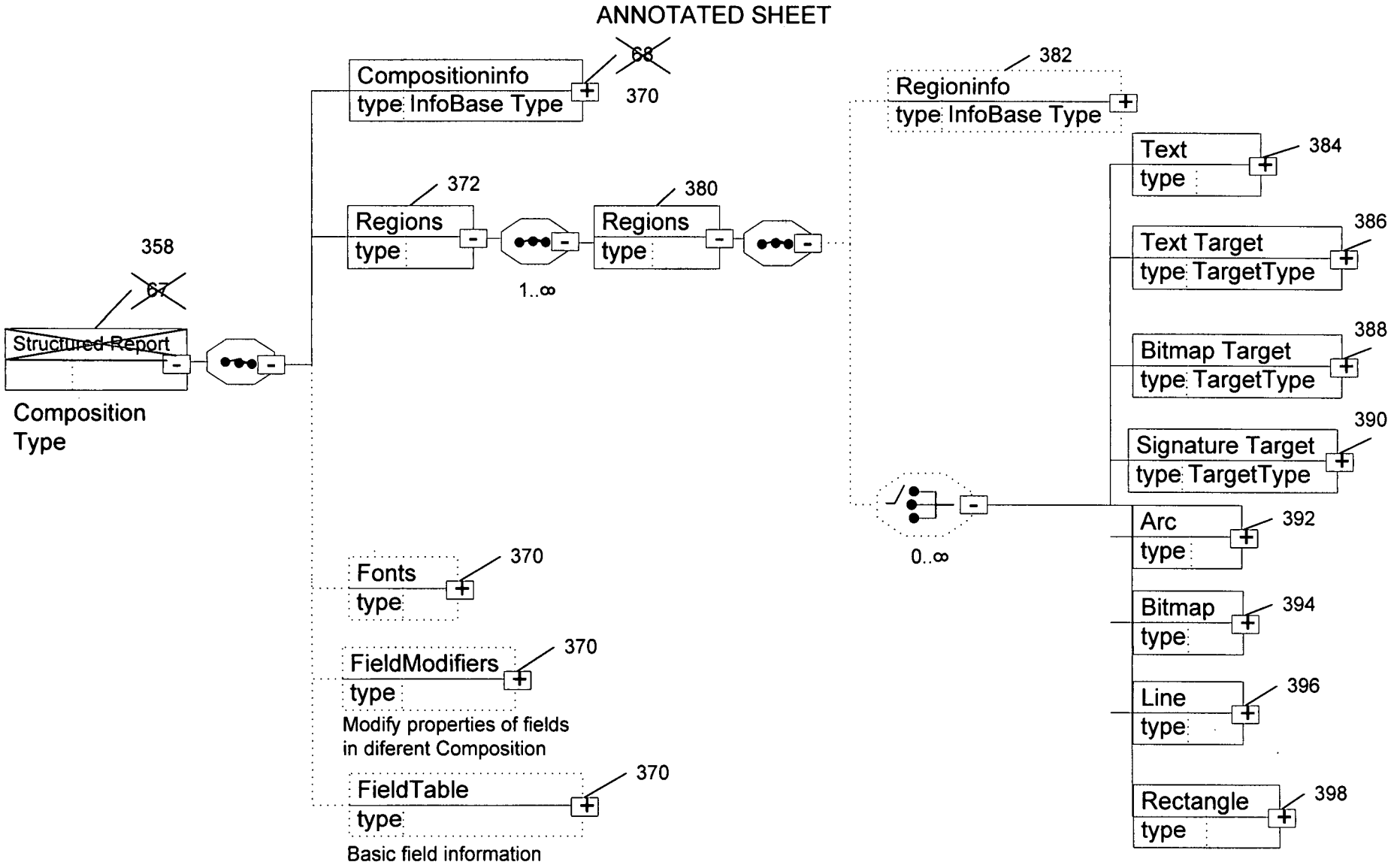
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Text
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Text Target
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Bitmap Target
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Signature Target
type TargetType
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Arc
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Bitmap
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Line
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Rectangle
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Regions
type
372
Regions
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370
Modify properties of fields
in diferent Composition
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370
Basic field information

Fig. 22